

# GEYSER

w a t e r f i l t e r s

# ECOTAR

UNIVERSAL ION-EXCHANGE FILTER MEDIA  
FOR WATER FILTERING

Main problems of water treatment can be solved by basic modifications:

Ecotar A

Ecotar ABio

Ecotar B

Ecotar B30

Ecotar C

Ecotar C30

Ecotar purifies water from wells, boreholes and pipelines. It removes hardness salts, iron, manganese, organic compounds, colour, ammonium, turbidity, unpleasant odors and taste.

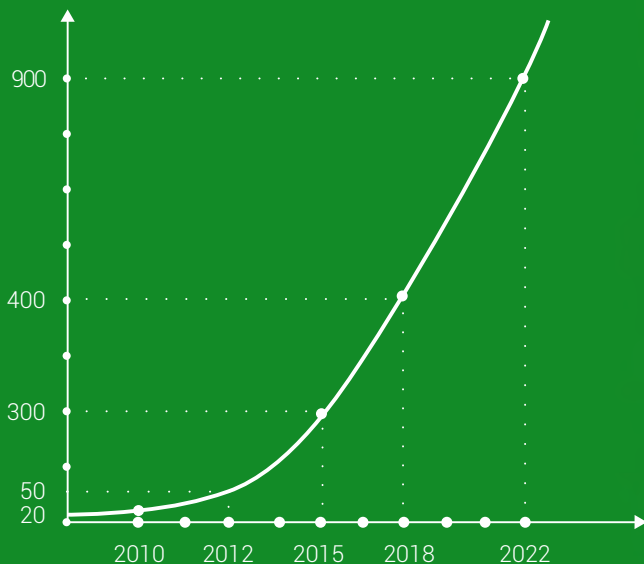


# Ecotar history

Since its creation in 2007, Ecotar has become widely known. Geyser company constantly improves the quality and efficiency of its technology. The new modifications of the Ecotar media have been launched to the market, these modifications are designed to solve typical water problems of the different regions.

## 15 years of success

Ecotar production volume growth  
(thousand of litres per year)



# ADVANTAGES OF ECOTAR MEDIA

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## Safety

Only foodgrade resins are used

## Versatility

Filtering media modifications for all types of water

## Efficiency

High-efficiency Fine Mesh Black resin removes:

- Iron (< 30 ppm)
- Manganese (< 8 ppm)
- Hardness (< 15 m-eq/L)
- Organics (< 30 mgO<sub>2</sub>/L)
- Ammonium (< 5)

## Durability

Service life up to 10 years

## Economy

High ion-exchange capacity of filter media reduces regeneration costs

## Uniqueness

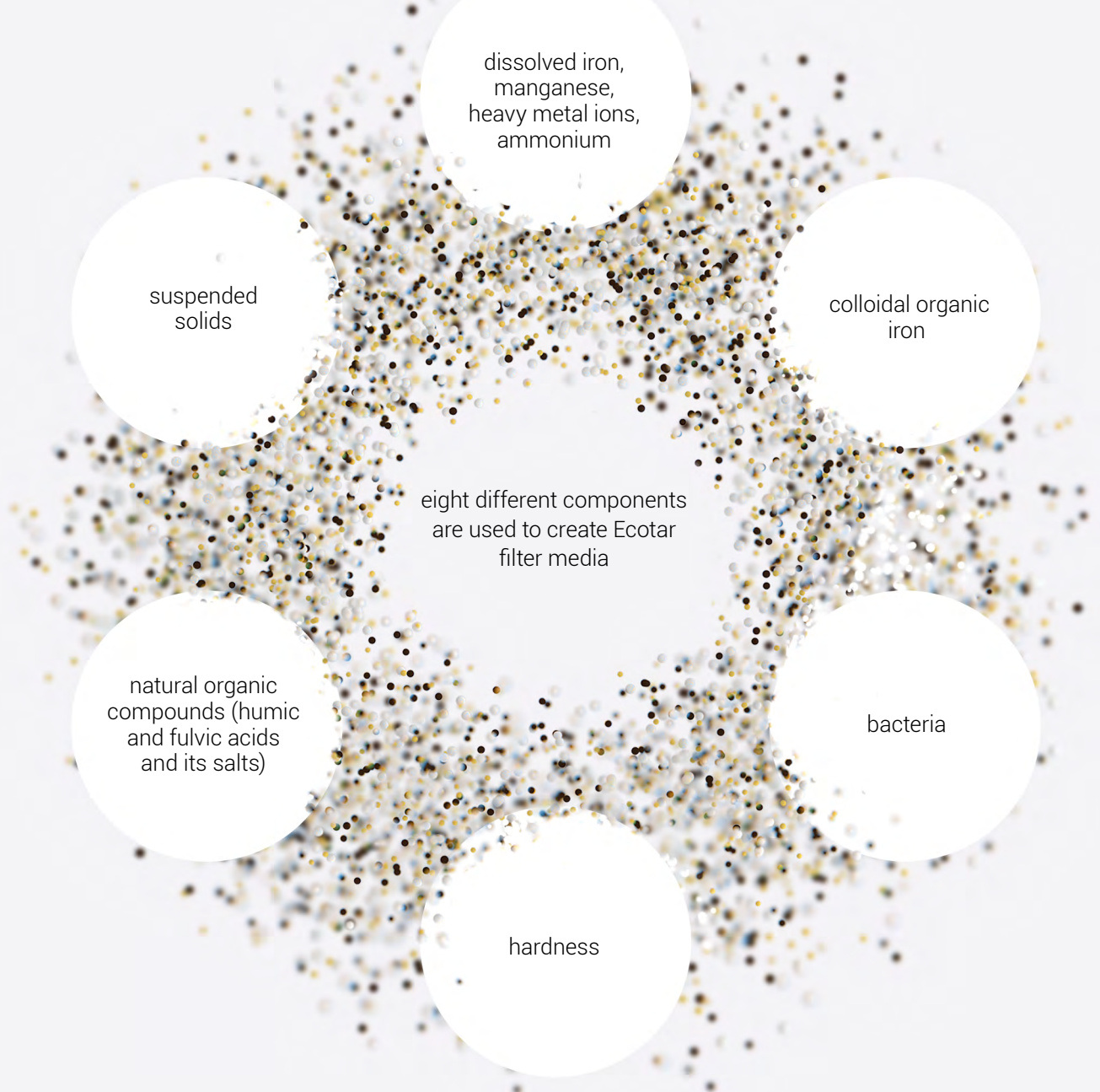
Any chemical form of IRON can be removed:

- Dissolved
- Insoluble (rust)
- Colloidal
- Organic

Removal of iron and manganese at highest concentration.  
Saving salt during regeneration.  
Stable quality of purified water within the media service life.

# ADVANTAGES OF ECOTAR MEDIA

Removal of 6 pollutant types with one filter




## BENEFITS OF THE ECOTAR

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### Efficient removal of all iron forms

#### Water purification from colloidal and organic iron

The Ecotar media contains highly efficient anion exchange resin (organo-absorber) for the removal of colloidal organic iron.



Colloidal organic iron gives water an unpleasant yellow-brown colour

#### Economical regeneration

Ecotar contains cation exchange and anion exchange resins. No need to use special reagents to recover filtering properties, only sodium chloride in tablet form is needed. Simple, safe and cost-effective! High ion exchange capacity of filtering media reduces regeneration costs.





### Water purification from dissolved and oxidized iron

In case of high concentrations of dissolved iron > 10 ppm, oxidized iron (rust) can be accumulated in filtering media and block its filtering properties. For this reason the special feeder is used for dosing of antibacterial resin cleaner to the Ecotar media during regeneration process. The antibacterial resin cleaner not only washes out the rust, but also cleans the inner parts of the control mechanism and sterilizes the filter beds. The feeder is installed on the brine tank, it doesn't require electric power or special adjustment.

## BENEFITS OF THE ECOTAR MEDIA

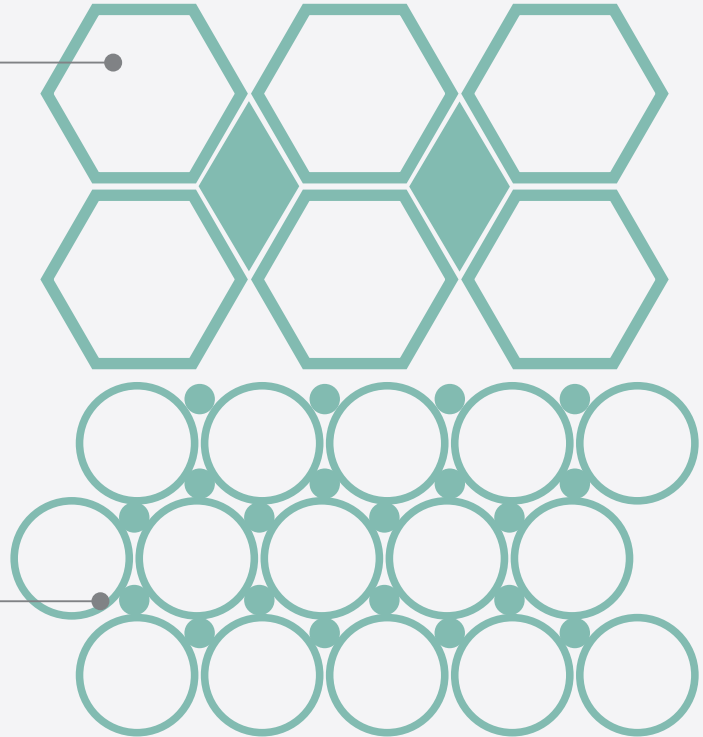
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### Inert layer for control valve protection

Inert layer

The Ecotar media contains inert layer. It prevents contamination of the control mechanism, increases reliability and extends the service life of the whole system.

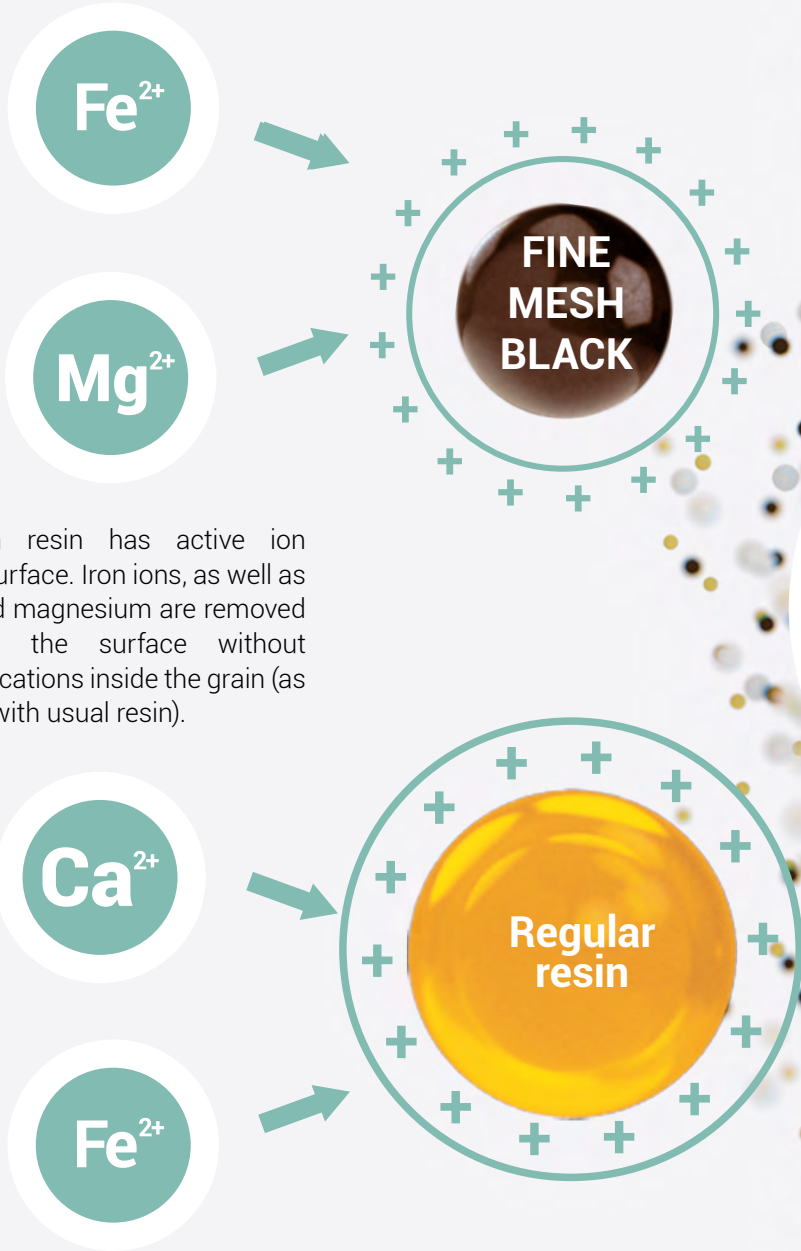
Mix of ion-exchange resins





# BENEFITS OF THE ECOTAR MEDIA

## High-speed removal of impurities



Fine mesh resin has active ion exchange surface. Iron ions, as well as calcium and magnesium are removed mainly on the surface without diffusion of cations inside the grain (as it happens with usual resin).

Due to high bulk density, the same vessel can hold much more Ecotar media than usual ion exchange resin. Enhanced contact area allows to increase in 2-3 times efficiency of removal of hardness salts and dissolved iron.

# CUSTOM-TAILORED APPROACH TO WATER PURIFICATION

## Types of Ecotar

### Ecotar A (Ecotar A Bio)

**Characteristic of the feed water:** firstly yellow-brown color, then sedimentation.

**Filter media removes:** iron (dissolved inorganic and organic) and manganese compounds, heavy metals and hardness salts.

### Ecotar B (Ecotar B 30)

**Characteristic of the feed water:** firstly transparent, then turns color into yellow. Boiling causes scale formation.

**Filter bed removes:** dissolved iron compounds, manganese compounds and hardness salts.

### Ecotar C (Ecotar C 30)

**Characteristic of the feed water:** color varies from yellow to brown, no sedimentation.

**Filter bed removes:** organic substances including iron organic compounds and dissolved iron/manganese salts.

## Recommended terms of Ecotar application

Limits of contamination	Ecotar A / A Bio	Ecotar B / B30	Ecotar C / C 30
Free chlorine, ppm	< 0,1		
Turbidity, ppm	< 3		
Iron, ppm	< 8	< 15/30	< 2/4
Manganese , ppm	< 3	< 8	< 2
Hardness, degree, m-eq/L	< 10	< 15	< 10
Oxidation , mg O <sub>2</sub> /L	< 10	< 5	< 20/30
TDS, ppm	< 2000		
Hydrogen sulfide	none		
Ammonium	< 5	< 5	< 5

## BENEFITS OF THE ECOTAR FILTER

### Comparison of Ecotar media with other filtering media

	<b>Ecotar</b>	<b>Other filter media</b>
Modifications of filtering media	7 modifications for different kinds of water	2-4 modifications
Type of resin	Food grade	Technical grade
Ion-exchange capacity	< 1200 mg-eq/l	600-800 mg-eq/l
Dissolved iron removal	< 30 ppm due to high-effective Fine Mesh Black resin	< 15-20 ppm (usual cation-exchange resins)
Manganese removal	< 8 ppm	< 2-3 ppm
Organic compounds removal	< 30mgO <sub>2</sub> /L due to high proportion of an organo-absorber.	< 20mgO <sub>2</sub> /L; the proportion of an organo-absorber is 3 times less
Permanganate oxidation efficiency removal	< 90%	< 50%
Bacteria removal	Bacteriostatic properties of media	None
Service life extension	Integrated system with bactericidal cleaner for media treatment during regeneration	None

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